



# Multiannual Programme of the Joint Research Centre 1980-1983

# 1982 Annual Status Report

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## Training and education

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of the Joint Research Centre  
1980 - 1983**

# **1982**

# **Annual Status Report**

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**Training and education**



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## EDUCATION AND TRAINING

1982

Research Staff: 9  
Budget: 1.003.000 ECUS

Projects:  
14 Courses or Seminars, as listed in Table 2

Programme Manager: B. HENRY  
Commission of the European Communities  
Joint Research Centre  
Ispra Establishment  
I-21020 Ispra (Varese), Italy

### 1. INTRODUCTION

The Education and Training Programme has been set up in recognition of the growing importance of continuing education in modern technological society. It is designed to improve the dissemination of scientific and technical knowledge, in subjects related to the research activities of the JRC, to the potential external users: industries, public bodies, research and educational organizations, etc.

Owing to the number and the quality of specialists of the various fields covered by the courses who are brought to Ispra as lecturers or participants, this programme plays an important role in the integration of the research teams of the JRC with the European scientific world, and in the development of contacts and ties between European scientists active in a given field.

The Education and Training programme consists both of Courses giving the fundamentals of new or specialized disciplines, and Seminars at research level presenting the state of very rapidly evolving subjects. Though oriented towards applied science and technology, generally their scientific content is at a high level and addressed to persons having a university education, and some experience in the field.

The lecturing staff consists of both invited experts and JRC staff members.

The courses, intended for external participation, are advertised accordingly in European Countries. A registration fee is requested from participants to cover part of the organization costs.

### 2. ACHIEVEMENTS

The following Courses or Seminars were organized during 1982:

#### NUCLEAR SCIENCE AND ENGINEERING

«*Multiphase Processes in LMFR Safety Analysis*»:  
Course, 5 days

«*Operator Behaviour in Adverse Stress Conditions*»:  
Course, 3 days

«*Workshops on Quality Assurance in Nuclear Plants*»:  
Workshop, 4 days

Part A — Problems during Installation and Commissioning  
Part B — Problems during Operation

«*Monte Carlo Methods and their Application to Radiation Shielding*»:  
Course, 5 days



## ENERGY SYSTEMS AND TECHNOLOGY

«*National Energy Planning and Management in Developing Countries*»:

Seminar, 10 days

«*Planification Énergétique Nationale dans les Pays en voie de Développement*»:

Seminar, 10 days

«*Performance of Solar Energy Converters*»:

Course, 6 days

Part A — Thermal Collectors

Part B — Photovoltaic Cells

## RESOURCES EVALUATION

«*Remote Sensing for Land Use Inventories*»:

Course, 15 days

## ENVIRONMENT AND CHEMISTRY

«*Ecological Effects of Heavy Metals Speciation in Aquatic Environment*»:

Course, 5 days

## HEALTH PHYSICS/FISICA SANITARIA

«*Fondamenti di Radioprotezione*»:

Course, 10 days

«*Radioprotezione negli Impianti Nucleari*»:

Course, 10 days

«*Applied Thermoluminescence Dosimetry*»:

Course, 5 days

«*Fondamenti di Sorveglianza Medica della Radioprotezione*»:

Course, 10 days

«*Protection against Non-Ionizing Radiation*»:

Course, 5 days

Eight of these events were repeats of those held in previous years while six were completely new.

Among the latter, the Seminar «*National Energy Planning and Management*» and its French-language companion «*Planification et Gestion Nationale de l'Énergie*» were an important result of the JRC efforts to extend its Education and Training Programme to subjects of especial interest for participants from developing countries. These Seminars were actually designed for them, and organized in cooperation and with the financial support of the Directorates General for Development (VIII) and Energy (XVII). They brought together about 50 decision makers or senior technical advisers from nearly as many countries belonging to the ACP area, Maghreb, Mashreq and ASEAN, and to some non-associated countries in South America and Asia.

The Course «*Monte Carlo Methods and their Application to Radiation Shielding*» was a specialization of the previous Ispra Courses in Nuclear Shielding, which was well received by the interested scientific community, to judge by the numerous registrations.

The Course «*Remote Sensing for Land Use Inventories*», held in collaboration with the Dutch «*Institute for Aerial Survey and Earth Science*», though essentially a repeat of that held in 1981, had been given this year an emphasis on applications in the Mediterranean area. While intended specially for participants from Developing Countries, these were actually only a minority due to the lack of financial support the JRC was able to offer to them.

Courses in Radioprotection held a significant place in the programme this year: 5 courses, of a total duration of eight weeks. In addition to three courses belonging to the series given every year in Italian, the field of non-ionizing radiation protection has been tackled for the first time by a special newly designed course.

The work in publishing the Ispra Courses has progressed quite well: 16 books had been issued at the end of 1982 and 8 were in preparation. Except for one case, the press reviews on these books have been always positive.

## 3. EVALUATION TO DATE

The Ispra Courses activity has been important in 1982, from both the quantitative and qualitative points of view.

The total duration of the courses and their attendance have reached figures above the average (101 days and 2595 participants × days), even though a greater number of participants would have been welcome in some courses. The crisis situation has maintained its previously noted consequences in that respect.

On the other hand, this year has seen the first result of our efforts towards cooperation with developing countries, with three courses organized specially in this context. There is no doubt that these initiatives have been judged favourably by all those who have taken part. However, although the JRC has shown its capacity to set up adequate programmes bringing together all the necessary skills, the lack of financial support to be offered to them has made it difficult, in some cases, to keep all the valuable candidates in the courses. A solution must be found either by a better integration of the JRC efforts in the whole Community cooperation policy, or by endowing the JRC with the financial means necessary to support these programmes fully.

## 4. CONCLUSIONS

1982 has been an encouraging year for the Education activity at Ispra.

The achievements of significant course items for developing countries opened interesting prospects of growth, which have been rationalized in a proposal for an «*Institute for Scientific Education and Cooperation*» to be set up at Ispra, as a part of the 1984-87 JRC programme.



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